Osteochondroma of the scapula

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A 29-year-old female presented with pain in the right dorsal scapular region after excruciating physical effort. An ultrasonography showed an anechoic collection with internal debris measuring 10.0 x 8.0 x 2.7 cm in diameter. After these results, a chest Magnetic Resonance Imaging (MRI) with gadolinium injection was performed and showed a soft tissue injury between the latissimus dorsi and the ribcage, without infiltration of the nearby fat tissue. A bone proliferation was observed in the medial aspect of the scapular body, with regular borders and in contact with the soft tissue lesion. A Multidetector Computed Tomography (MDCT) scan (Figures 1 to 3) revealed a bone lesion with continuity of the cortical and medullary bones, which is characteristic of osteochondroma. An anatomopathologic (AP) analysis demonstrated the presence of osteochondroma without signs of malignancy.

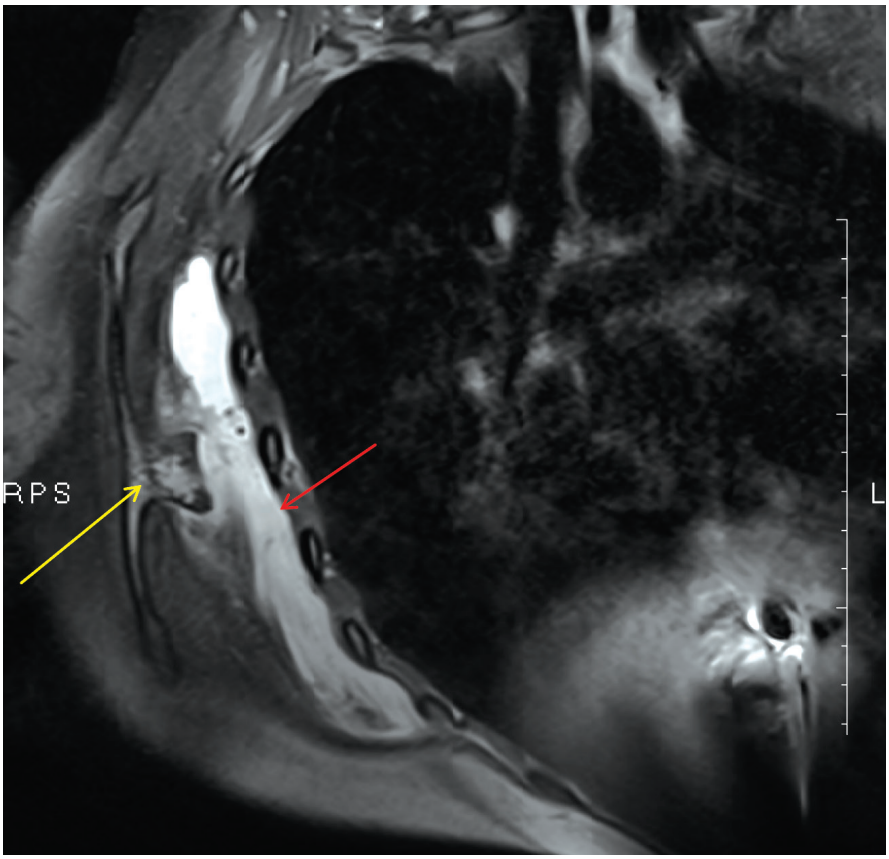

Figure 1: Coronal DP fat saturation - soft tissue lesion with hyperintense signal with few septa (red arrow) and scapular exostosis (yellow arrow).

Figure 2: Axial T1 fat saturation post-gadolinium – hypointense signal lesion with capsular/peripheral enhancement (red arrow).

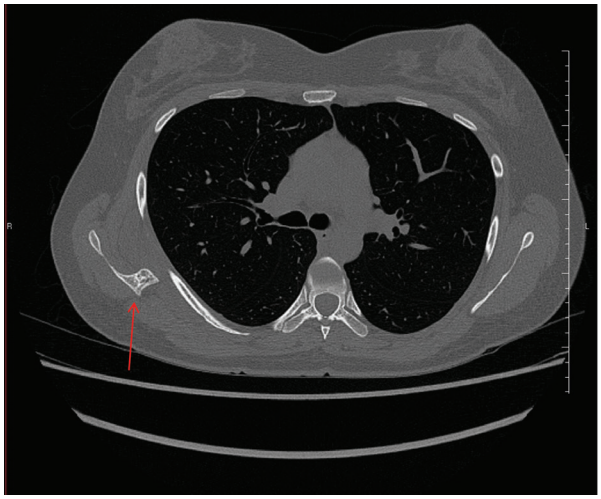

Figure 3: Axial MDCT - bone exostosis continuous with the medullary and cortical bones of the scapula, characterized as osteochondroma (red arrow).

Osteochondroma is the most common benign bone tumor[1-3], and the most commonly affected sites are the metaphyseal regions of long bones of the lower limbs[4]. Unusual locations for osteochondromas include small bones of the hands and feet (10% of cases), the scapula (4%), the pelvis (5%), and the spine (2%). Osteochondromas are composed of cortical and medullary bone protruding from and continuous with the underlying bone, and a cartilaginous cap[5]. Complications are commonly associated with these exophytic masses and include cosmetic and osseous deformities, fractures, vascular compromise, neurologic sequelae, overlying bursa formations, and malignant transformations[5,6].

Bursa formations are most frequently related to sites with motion, where there is friction. The most common specific locations for this reactive bursa formation include the scapula, hip, and shoulder. These bursae are lined by a synovial membrane and may become inflamed, infected, or hemorrhagic. In addition, the bursa may contain chondral or fibrin bodies, and chondrometaplasia may occur within the synovial lining, leading to secondary synovial chondromatosis[5].

The main differential diagnosis for chest wall lesions at this location is elastofibroma, but it is not associated with the formation of osteochondroma[7,8].

In conclusion, osteochondroma is a common benign bone tumor, but the scapula is an uncommon location. We described an abnormal finding in the soft tissue nearby, consisting of a fluid collection (adventitial bursa) that could mimic another soft tissue tumor.

REFERENCES

1. Bernard SA, Murphey MD, Donald FJ, Kransdorf MJ. Improved differentiation of benign osteochondromas from secondary chondrosarcomas with standardized measurement of cartilage cap at CT and MR imaging. Radiology. 2010;255:857-65.
2. Mavrogenis AF, Papagelopoulos PJ, Soucacos PN. Skeletal osteochondromas revisited. Orthopedics. 2008;31:1018.
3. Geirnaerdt MJ, Hogendoorn PC, Bloem JL, Taminiau AH, van der Woude HJ. Cartilaginous tumors: fast contrast-enhanced MR imaging. Radiology. 2000; 214:539-46.
4. Saglik Y, Altay M, Unal VS, Basarir K, Yildiz Y. Manifestations and management of osteochondromas: a retrospective analysis of 382 patients. Acta Orthop Belg. 2006;72:748-55.
5. Murphey MD, Choi JJ, Kransdorf MJ, Flemming DJ, Gannon FH. Imaging of osteochondroma: variants and complications with radiologic-pathologic correlation. Radiographics. 2000; 20:1407-34.

6. Lee KCY, Davies AM, Cassar-Pullicino VN. Imaging the complications of osteochondromas. Clin Radiol. 2002;57:18-28.

7. Naylor MF, Nascimento AG, Sherrick AD, McLeod RA. Elastofibroma Dorsi: radiologic findings in 12 patients. AJR Am J Roentgenol. 1996;167:683-7.

8. Kransdorf MJ, Meis JM, Montgomery E. Elastofibroma: MR and CT appearance with radiologic-pathologic correlation. AJR Am J Roentgenol. 1992;159:575-9.

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